

REMARKS

Claims 1-34 remain pending in the instant application. All claims presently stand rejected. Claims 1, 4, 21, and 32 are amended herein. Entry of these amendments and reconsideration of the pending claims are respectfully requested.

Drawings

The Office Action mailed on January 10, 2007 did not indicate whether the drawings are acceptable or objectable to the Examiner. Accordingly, Applicants respectfully request an indication from the Examiner whether the drawings are accepted.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 4, 5, 9, 10, 12-14, 16-21, and 27-33 stand rejected under 35 U.S.C. §102(e) as being anticipated by Pung (US Pub. No. 2002/0150099). Applicants respectfully traverse the rejections.

A claim is anticipated only if **each and every element** of the claim is found in a single reference. M.P.E.P. §2131 (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987)). “The **identical invention** must be shown in as **complete detail** as is contained in the claim.” M.P.E.P. §2131 (citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989)). [**Emphasis added**].

Claim 1 currently recites:

A method for establishing a reservation of a **lightpath** traversing a plurality of connected **lightpath segments** between source and destination nodes in an **optical switched network**, comprising:

making a soft reservation of node resources supporting respective **lightpath segments** from among the plurality of **lightpath segments**, the soft reservation of the node resources corresponding to a scheduled time period for which the **lightpath** is requested to be reserved;

determining if adequate node resources are available for reservation during the scheduled time period to support traversal of the entire **lightpath**; and

making a hard reservation to commit node resources corresponding to the scheduled time period if adequate node resources are determined to be available.

[**Emphasis added**]. Applicants respectfully assert that Pung fails to disclose reservation of a lightpath as is more fully explained below.

The Examiner asserts on page 2 of the Office Action that paragraph [0019] of Pung teaches "...a method for establishing a coarse-grained reservation of a lightpath traversing a plurality of connected lightpath segments between source and destination nodes in an optical switched network..." Applicants respectfully disagree.

Pung generally discloses a multicast routing method to satisfy quality of service constraints. Pung, Abstract. In particular, Pung discloses a method for use in a packet switched data network 10, including "conventional routers, switches or the like..." Pung, [0039]. However, nowhere in the cited portion of Pung, as well as the rest of Pung, does it disclose reservation of a lightpath traversing a plurality of connected lightpath segments in an optical switched network, as expressly claimed by Applicants. To be sure, the words "light", "optical", "burst", and "photon" do not even appear in the Pung reference.

As stated above, M.P.E.P. §2131 requires *each and every element* of the claim be found in the reference and that the *identical invention* must be found in as *complete detail* as contained in Applicants' claim. Pung fails to disclose reservation of a lightpath and consequently, fails to disclose each and every element of claim 1. Independent claims 20 and 31 include similar novel elements as independent claim 1. **Accordingly, Applicants request that the instant §102 rejections of claims 1, 20 and 31 be withdrawn.**

Furthermore, dependent claim 4 recites, in pertinent part, "...storing resource reservation data at each node, including resource reservation status indicia indicating whether a resource has a corresponding soft or hard reservation and time values specifying a start and end of the scheduled time period..." Not only does Pung fail to disclose the use of lightpaths, as described above, Pung also fails to disclose storing time values specifying a start and end time for the scheduled time period at each node, as is more fully explained below.

As discussed above, Pung generally discloses a method of multicast routing. With reference to FIGS. 12A-12B, Pung discloses that a host A (14a) requests a multicast QoS connection to source B (14b). Pung, [0100]. Host A is disclosed as

sending a request packet Req(A,A,a) to node 12a. This request packet is then forwarded along the network until it reaches source B (14b). Pung discloses that when source B receives the request packet and decides to accept the connection request it sends back a confirm packet (CF(A,B,E)) immediately. Pung, [0102]. Once the confirm packet is received at host A (14a), Pung discloses that a multicast QoS connection is then established between hosts B and A. Pung, [0104]. Pung also discloses that the resources of each node are reserved upon receipt of the confirm packet. Pung, [0019]. Thus, in essence, Pung discloses sending a request packet from node to node until the source is reached and then sending back a confirm packet. However, when the confirm packet is received at each node, the node's resources are immediately allocated to support the multicast QoS connection as disclosed by Pung. Pung fails to disclose storing time values specifying a start and end time for a scheduled time period. In fact, there is no need to do so in Pung because Pung discloses that the resources of a node are allocated upon receipt of the confirm packet. **Since Pung discloses immediately allocating resources of each node upon receipt of a confirm packet it necessarily fails to disclose storing time values specifying a start and end time for a scheduled time period, as expressly recited in Applicants' claim 4.** Accordingly, claim 4, as amended, is further novel over the cited reference for these reasons, as well as those given above in connection with independent claim 1.

Claim Rejections – 35 U.S.C. § 103

Claims 2, 3, 6-8, 11, 15, 22-26, and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Pung. Applicants respectfully traverse the §103 rejections.

If an independent claim is non-obvious under 35 U.S.C. §103, then any claim depending therefrom is also non-obvious. MPEP §2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claims 1, 20, and 31 are in condition for allowance. Applicants respectfully submit that claims 2, 3, 6-8, 11, 15, 22-26, and 34 are therefore allowable by virtue of their dependence on allowable independent claims, as well as by virtue of the features recited therein. **Furthermore, Applicants assert that for at least the reasons explained below, the §103 rejections fail to establish a *prima facie* case of obviousness.**

To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; **and** (3) there must be a reasonable expectation of success. MPEP §2143.

Claims 2, 3, 22, 23, and 34

Examiner acknowledges that Pung fails to disclose, teach, or suggest all limitations of claims 2, 3, 22, 23, and 34 by stating "...Pung differs from the claimed invention in that Pung fails to specifically teach that the optical switched network comprises a photonic burst switched network or a wavelength division multiplexed PBS network." Office Action, mailed 1/10/07, p. 6. However, Examiner continues by stating "...both types of optical switched networks are well known in the art and Official Notice is given to that effect." Whether or not photonic burst switched or WDM PBS networks were well known in the art, Applicants respectfully assert that the rejection still fails to establish a *prima facie* case of obviousness because no objective evidence has been provided to establish a motivation to combine or that there would be a reasonable expectation of success to combine Pung with the claimed photonic burst switched or WDM PBS networks.

The Examiner states on page 6 of the Office Action "[o]ne skilled in the art would have been motivated to employ Pung's reservation methodology to a photonic burst switched network or a wavelength division multiplexed PBS network in order to efficiently route multicast signals according to multiple QoS constraints (paragraph [0014])." However, paragraph [0014] of Pung makes no mention of optical switched networks, much less a photonic burst switched or WDM PBS networks. Thus, the rejection fails to provide any **objective evidence** to show that there is a motivation to combine the teachings of Pung with Applicants' claimed optical switched networks. The Examiner has further failed to provide any **objective evidence** or any reasoning as to exactly how an optical switched network, as claimed by Applicants', would be incorporated into the teachings of Pung. Thus, the rejection further fails to establish a reasonable expectation of success, as required by M.P.E.P. §2143. Applicants kindly direct the Examiner to MPEP §2143.01, which points out that a statement that

modifications to the cited reference would have been well within the ordinary skill of the art at the time the claimed invention was made *is insufficient* to support an obviousness rejection.

Therefore, the Examiner appears to rely on personal knowledge without providing any supporting evidence in the rejection of claims 2, 3, 22, 23, and 34. Applicants respectfully traverse the Examiner's assertions and request evidence in support of the Examiner's position. M.P.E.P. §2144.03. **Applicants respectfully request that the Examiner provide a reference or affidavit pursuant to M.P.E.P. §2144.03** to support his assertions that (1) photonic burst switched networks and WDM PBS networks were known at the time of Applicants' invention; (2) that one skilled in the art would have been motivated to combine the teachings of Pung with the claimed optical switched networks; and (3) that there is a reasonable expectation of success to combine Pung with the claimed optical switched networks. Absent such a showing, Applicants respectfully assert that claims 2, 3, 22, 23, and 34 are nonobvious and therefore allowable.

Claims 6, 7, and 24

Examiner acknowledges that Pung fails to disclose, teach, or suggest all limitations of claims 6, 7, and 24 by stating "...Pung differs from the claimed invention in that Pung fails to specifically teach the use of GMPLS based labels." Office Action, mailed 1/10/07, p. 6.

Similar to the §103 rejection above, the Examiner has failed to provide any objective evidence to support the rejection of claims 6, 7, and 24 and has simply stated "...the use of these labels are well known in the art and Official notice is given to that effect. One skilled in the art would have been motivated to employ a GMPLS based label in order to provide a framework for dynamic provisioning of connection in the optical network."

Applicants respectfully traverse the Examiner's assertions and request evidence in support of the Examiner's position. M.P.E.P. §2144.03. **Applicants respectfully request that the Examiner provide a reference or affidavit pursuant to M.P.E.P. §2144.03** to support his assertions that (1) the use of GMPLS-based labels were known

at the time of Applicants' invention; (2) that one skilled in the art would have been motivated to combine the teachings of Pung with the claimed GMPLS-based labels; **and** (3) that there is a reasonable expectation of success to combine Pung with the claimed GMPLS-based labels. Absent such a showing, Applicants respectfully assert that claims 6, 7, and 24 are nonobvious and therefore allowable.

Furthermore, claim 7 recites, in pertinent part, "...wherein the GMPLS-based label includes **at least one field identifying an input wavelength** employed for carrying signals over a lightpath segment identified by the GMPLS-based label." The rejection of claim 7 fails to account for the expressly recited limitation that the GMPLS-based label includes **a field identifying an input wavelength**. Nowhere in the cited reference or in the Official Notice taken by Examiner is this limitation accounted for. Thus, the rejection further fails to establish a *prima facie* case of obviousness for failing to show all elements of claim 7.

Claims 8, 11, 25, and 26

Examiner acknowledges that Pung fails to disclose, teach, or suggest all limitations of claims 8, 11, 25, and 26 by stating "...Pung differs from the claimed invention in that Pung fails to specifically teach that the resource reservation request message comprises a Path/Resv message having a format based on an extension to the RSVP-TE (ReSerVation Protocol – Traffic Engineering) signal protocol." Office Action, mailed 1/10/07, p. 6.

Similar to the §103 rejections above, the Examiner has failed to provide any objective evidence to support the rejection of claims 8, 11, 25, and 26 and has simply stated "...PATH/RESV messages based on extensions to the RSVP-TE protocol are well known in the art and Official notice is given to that effect. One skilled in the art would have been motivated to use PATH/RESV messages in order to allow for bandwidth reservation in a peer-to-peer environment."

Applicants respectfully traverse the Examiner's assertions and request evidence in support of the Examiner's position. M.P.E.P. §2144.03. **Applicants respectfully request that the Examiner provide a reference or affidavit pursuant to M.P.E.P. §2144.03 to support his assertions that (1) the use of PATH/RESV messages based on**

extensions to the RSVP-TE protocol were known at the time of Applicants' invention; (2) that one skilled in the art would have been motivated to combine the teachings of Pung with the claimed PATH/RESV messages based on extensions to the RSVP-TE protocol; **and** (3) that there is a reasonable expectation of success to combine Pung with the claimed PATH/RESV messages based on extensions to the RSVP-TE protocol. Absent such a showing, Applicants respectfully assert that claims 8, 11, 25, and 26 are nonobvious and therefore allowable.

Claims 15

Examiner acknowledges that Pung fails to disclose, teach, or suggest all limitations of claim 15 by stating "...Pung differs from the claimed invention in that Pung fails to specifically teach that the potential light paths are prioritized based on traffic balancing considerations." Office Action, mailed 1/10/07, p. 7.

Similar to the §103 rejections above, the Examiner has failed to provide any objective evidence to support the rejection of claim 15 and has simply stated "...prioritizing light paths based on traffic balancing considerations is well known in the art and Official Notice is given to that effect. One skilled in the art would have been motivated to prioritizing light paths based on traffic balancing considerations in order to efficiently balance the resources of the network among a plurality of users."

Applicants respectfully traverse the Examiner's assertions and request evidence in support of the Examiner's position. M.P.E.P. §2144.03. **Applicants respectfully request that the Examiner provide a reference or affidavit pursuant to M.P.E.P. §2144.03** to support his assertions that (1) prioritizing light paths based on traffic balancing considerations was known at the time of Applicants' invention; (2) that one skilled in the art would have been motivated to combine the teachings of Pung with the claimed prioritizing potential light paths based on traffic balancing considerations; **and** (3) that there is a reasonable expectation of success to combine Pung with the claimed prioritizing potential light paths based on traffic balancing considerations. Absent such a showing, Applicants respectfully assert that claim 15 is nonobvious and therefore allowable.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants believe the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative at (206) 292-8600 if the Examiner believes that an interview might be useful for any reason.

CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

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